STATE ROUTE 190
TRANSPORTATION CONCEPT REPORT

CALTRANS DISTRICT 9

Office of System Planning
2003

STATE ROUTE 190

TRANSPORTATION CONCEPT REPORT

PREPARED
BY
CALTRANS
DISTRICT 9
OFFICE OF SYSTEM PLANNING

2003

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STATE ROUTE 190 TRANSPORTATION CONCEPT REPORT

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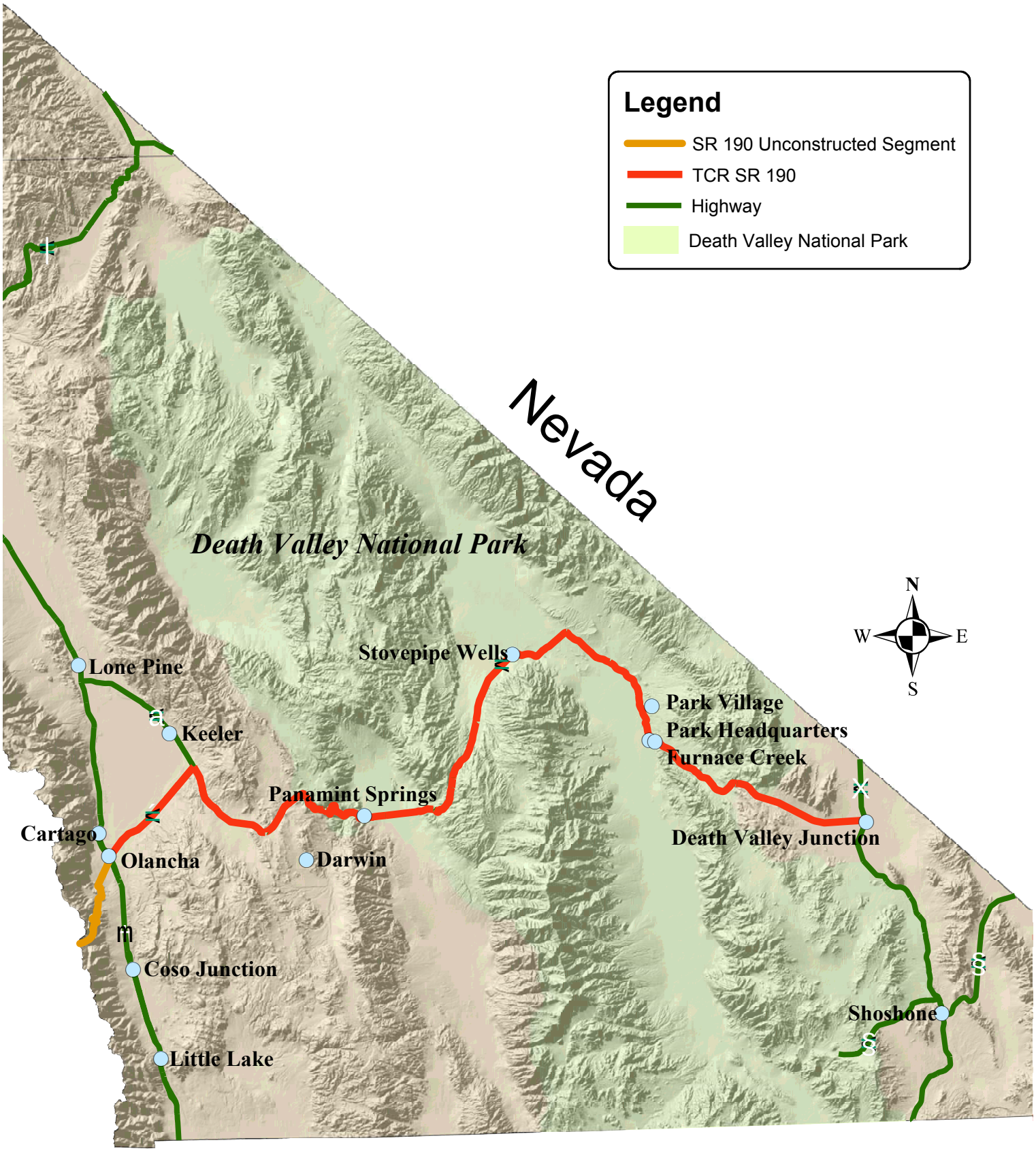
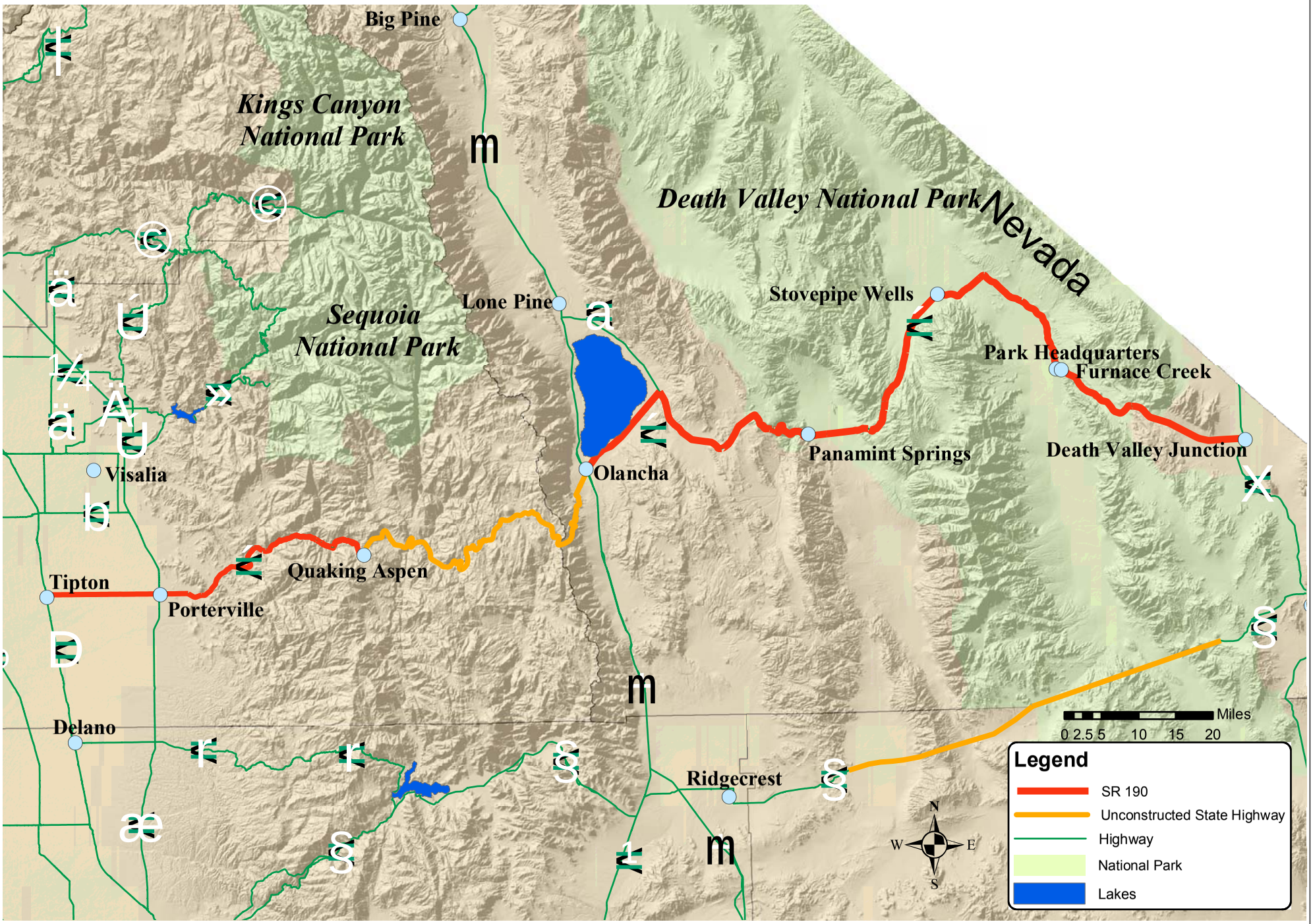


Caltrans District 9 Office of System Planning 2002

California State Route 190



Caltrans District 9 Office of System Planning 2002

State Route 190 Transportation Concept Report

INTRODUCTION

The Transportation Concept Report (TCR) is a long range planning document that describes the current characteristics of the transportation corridor and establishes a twenty-year planning concept. The TCR defines the California Department of Transportation (Caltrans) goals for the development of the transportation corridor in terms of Level of Service (LOS) and type of facilities, and broadly identifies the improvements needed to reach those goals.

This TCR has been prepared by the District 9 System Planning Branch in cooperation with local and regional agencies, as well as adjacent Counties and Caltrans Districts. All information in this TCR is subject to revision as conditions change and new information is obtained. Consequently, the nature and the size of identified improvements may change as they move through the project development and environmental analysis stages. Final determinations are made at the time of project planning and design.

LOS calculations are based on the year 2000 Highway Capacity Manual (HCM). The 2000 HCM includes substantial changes to capacity calculations compared to past editions of the HCM. As a result, LOS calculations will generally show an improvement from former reports or studies that are based on earlier editions of the HCM.

ROUTE SYNOPSIS

State Route (SR) 190 begins at the junction of SR 99 at Tipton, in Tulare County (Caltrans District 6). The route extends east to where the existing alignment terminates on the western slope of the Sierra Nevada mountains at Quaking Aspen. East of Quaking Aspen and over the Sierra Crest to US 395 is 43 miles (69.23 kilometers) of an adopted but unconstructed portion of SR 190. At the junction of US 395 in Olancha, the existing constructed alignment of SR 190 continues east through Death Valley National Park, and terminates at the junction of SR 127 (Death Valley Junction).

This TCR covers SR 190 within the boundary of District 9, (Sierra Crest unconstructed portion to the junction of SR 127 (Death Valley Junction), a distance of 130.84 miles (210.65 kilometers).

The unconstructed portion of SR 190 from Quaking Aspen Meadows in Tulare County to the junction of US 395 near Olancha in Inyo County has not had any significant local or public interest in promoting its construction. The Golden Trout and South Sierra Wilderness areas would prevent the construction of SR 190 in this area, and as a result, the paper route of SR 190 should be rescinded.

ROUTE HISTORY

Thirty-one miles of the Panamint alignment of SR 190 from the mouth of Darwin Wash and over the Panamint Range was a Toll Road constructed by H. W. Eichbaum. The Inyo County Supervisors granted Mr. Eichbaum the franchise to operate the toll road in 1926. In 1933, the highway was added to the State Highway System as a part of SR 127 and subsequently the toll road portion of the route was purchased by the State in 1934 from Mr. Eichbaum for a price of $25,000.

In 1937, a new section of SR 190 from Darwin Road to Death Valley was constructed. To celebrate the opening of this new portion of highway, a ceremony known as the "Wedding of the Waters" transpired. The "Wedding of the Waters" consisted of a gourd full of water that was taken from Tulainyo Lake at 12,802 feet (3,902 meters) the highest lake in the United States on the side of Mt. Whitney. The gourd was then taken to the lowest water body (Bad Water) at 282 feet (86 meters) below sea level in Death Valley National Park. Numerous modes of transportation were used in the event, which included a Native American runner, Pony Express rider, miner & burro, a 20-mule team wagon, stagecoach, train, car, and finally the gourd was opened and dispersed over Bad Water by the Death Valley Superintendent using a plane.

The route was maintained by the State until 1937, when the United States Department of the Interior - National Park Service petitioned to take over the maintenance for a portion of the route. The National Park Service was granted this request and Civilian Conservation Corps (CCC) labor was utilized to install side ditches, drainage dips, road approaches, and connections. The agreement between the National Park Service and the State continued until August of 1942, when a major storm obliterated 11 miles (17.71 kilometers) of the highway above Furnace Creek. The State reconstructed the 11 miles (17.71 kilometers) and reassumed the maintenance of the entire route. In 1959 the portion of SR 190 between SR 136 and SR 127 route was listed on the California Freeway and Expressway System. In 1964 the route was re-signed to its present day signing of SR 190.

ROUTE DESCRIPTION

State Route 190 is functionally classified as an interregional Two-Lane Minor Arterial, which provides access from US 395 at the eastern flank of the Sierra Nevada Mountains to SR 127 at Death Valley Junction near the California/Nevada border. Elevations along SR 190 varies considerably from 3,648 feet (1,112 meters) at the junction of US 395 to over 5,200 feet (1,585 meters) near Darwin Road, down to 245 feet (67.67 meters) below sea level in Death Valley, and back up to 2,070 feet (630.94 meters) at the junction of SR 127. Due to the combined effects of extreme summer temperatures, steep grades, and high passes, the potential exists for vehicles to overheat on the route. Caltrans has installed radiator water tanks at various locations along the route, and has signs advising motorists to turn off their air conditioning while traveling over the passes in the area.

The segment of SR 190 from PM 42.7 (KP 68.7) to PM 128.3 (KP 206.4) is officially designated as both a California Scenic Highway and a National Scenic Byway. The remaining portion of the route outside of Death Valley National Park within Inyo County is eligible to become a State Scenic Highway.

State Route 190 is the only State Highway that provides access from the west to Death Valley National Park, which is a globally significant area. Located in one of the most remote parts of California, travelers from all over the world use SR 190 as the gateway to Death Valley National Park. As a result of the global significance of this area, continuing coordination and cooperation between Caltrans and The National Park Service should occur during the planning, design, and construction phases of all proposed improvements to SR 190.

PRESENT AND FUTURE OPERATING CONDITIONS

The primary issues of concern for SR 190 are tourists stopping in the travelway, flash floods pouring water and debris onto the highway, pavement deterioration due to intense summer heat, a lack of paved shoulders and turnouts, dust reducing visibility from the Owens Dry Lake, rock falls, and a decrease in sight distance at drainage dip locations in the travelway. The route traverses alluvial fans that change on an annual basis causing several sections of the roadbed to become trenched and buried during floods. State Route 190 closes an average of two times each year due to flooding at several locations. Drainage improvements, shoulder widening, curve improvements, turnouts, scenic pullouts, rock fall protection, and minor highway realignment will be considered as funding allows over the next twenty-year period.

EXISTING AND FUTURE DEFFECIENCES

Based on Highway Capacity Manual calculations, SR 190 is currently operating at Levels of Service (LOS) A, B, and C, depending on specific segments of the route. The concept Level of Service for SR 190 is LOS C. Capacity increasing projects are not being proposed for SR 190 as they are not warranted at this time and are not anticipated in the future. Safety and operational improvements may be implemented but will have to take into account any possible scenic or environmental impacts.

Buses and motorhomes over 40 feet (12.19 kilometers) in length are prohibited on SR 190 from the Junction of SR 136 to 2.6 miles (4.19 kilometers) east of Panamint Springs, and tractor-trailers kingpin to the rear axle over 30 feet (9.14 meters) in length are not advised on this portion of SR 190. Bicycles are allowed on all portions of SR 190 and Bicycle paths and facilities are located within the Furnace Creek Resort area.

COMMUNITY ISSUES & PUBLIC OUTREACH

Improvements to SR 190 will be planned using a collaborative, interdisciplinary approach involving all stakeholders. This approach will attempt to integrate and balance community, aesthetic, historic, and environmental values with regard to transportation safety, maintenance, and performance goals. Specifically, the communities of Olancha, Cartago, Darwin, Panamint Springs, Stovepipe Wells, Furnace Creek, Death Valley Junction, and the National Park Service will be consulted during the planning, design, and construction phases of proposed projects on SR 190.

Two Open House events were held to gather public input for the development of this document. One Open House event was held at the Death Valley National Park Furnace Creek Visitor Center on August 21, 2002 from 1:00 p.m. to 7:00 p.m., and the other Open House event was held at Statham Hall in Lone Pine, CA on August 28, 2002 from 3:00 p.m. to 8:00 p.m. The pubic input received at these two Open House events is incorporated into this document under the Route Improvement Recommendations sections of each Segment Fact Sheet.

STATE ROUTE 190 CONCEPT SUMMARY

County	Segment	Post Miles	Post Kilometers	Current Facility	Concept Facility	Ultimate Facility	Current LOS	10-Yr LOS	20-Yr LOS	Concept LOS	Page #
Inyo	1	9.85/24.55	15.86/39.53	2 LC	2 LC	2 LC	A	A	A	C	8
Inyo	2	24.55/42.70	40.25/68.75	2 LC	2 LC	2 LC	A	A	B	C	10
Inyo	3	42.70/85.00	68.75/136.85	2 LC	2 LC	2 LC	A	C	C	C	12
Inyo	4	85.00/87.00	136.85/140.07	2 LC	2 LC	2 LC	C	C	C	C	14
Inyo	5	87.00/107.00	140.07/172.27	2 LC	2 LC	2 LC	B	B	B	C	16
Inyo	6	107.00/112.0	172.27/180.32	2 LC	2 LC	2 LC	C	C	C	C	18
Inyo	7	112.0/128.33	180.32/206.08	2 LC	2 LC	2 LC	B	B	B	C	20
Inyo	8	128.33/140.69	206.08/226.51	2 LC	2 LC	2 LC	B	B	B	C	22

SR 190 SEGMENT FACT SHEET

Length in km	23.67	**Length mi:**	14.70
KP Back	16.10	**Back PM**	9.85
KP Ahead	39.53	**Ahead PM**	24.55

Present Facility Two-Lane Conventional

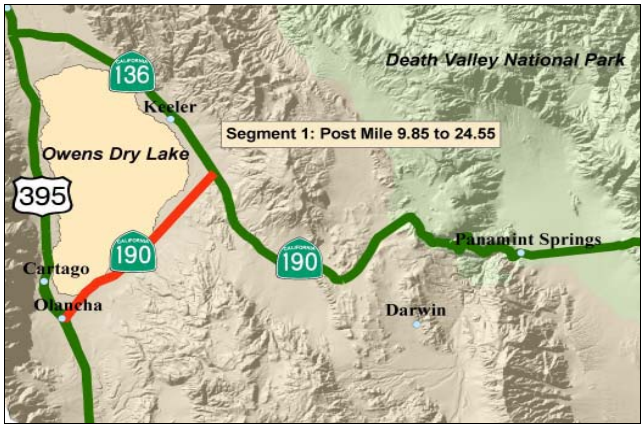
Present LOS A

Concept Facility Two-Lane Conventional

Concept LOS C

Ultimate Facility Two-Lane Conventional

Segment Location Junction SR 190/U.S. 395 to SR 190/136



Segment Description

This segment is a two lane conventional highway from the Junction of US 395 to the Junction of SR 136 with a posted speed limit of 65 mph (105 km/h). The highway is located at the south end of the Owens Dry Lake with views of the Owens Valley, and the Sierra Nevada and Inyo mountain ranges. The majority of the road is straight and level, with several dips for cross drainage. Passing opportunities are abundant due to lengthy sight distances. During periods of high winds, blowing dust from the Owens Dry Lake creates a visibility hazard for motorists in the area. The present condition of the roadway includes substantial longitudinal and alligator cracking. The majority of accidents occur in the eastbound direction. 70% of accidents on this segment are related to hit objects, of which most are collisions with animals in the roadway.

Route Concept Improvement Recommendations

Raise the highway grade for this entire segment. Maintain and improve the existing drainage network. Install new drainage structures including box culverts at PM 22.54 (KP 36.3), and PM 23.15 (KP 37.3). Install 8 ft (2.4 m) paved shoulders for clear zone recovery. Install livestock fencing and cattle guards along the segment as a potential measure to help reduce vehicle/animal collisions.

Programmed Projects

No capacity or operational improvements are programmed for this segment.

Highway Network Affiliation

Functional Classification: Minor Arterial

National Hwy System	No	**Scenic Highway**	Eligible
California Freeway _ Expressway System	Yes	**National Truck Network**	Kingpin to Rear Axle < 40 ft in Length
STRAHNET	No	**Life Line**	No
Regionally Significant	Yes	**IRRS**	IRRS

Highway Information

	Units	Feet	Meters
Average Median Width		0	0
Average Shoulder Width		2	0.6
Average Lane Width		12	3.6

SR 190 SEGMENT FACT SHEET

RTPA/COG/MPO

Inyo County LTC
Drawer Q, Independence, CA 93526

Air Quality Comments

For State of California and National Ambient Air Quality Standards this area is out of conformity for PM 10 due to the Owens Dry Lake.

Transit Service/ Modal Options

Bicycle travel is allowed. Bus service is not available.

Land Use

Land Use for this segment includes open range land and wilderness area. Ownership is the Los Angeles Department of Water & Power, United States Department of the Interior - Bureau of Land Management, and a few private parcels.

Environmental Concerns

Rare species of plants are found along the SR 190 corridor that include but are not limited to, Gilman's springparsley, winded catseye, Johnson barrel cactus, Mojave Fishook cactus, Death Valley sage, Red Grama, Reveal's buckwheat, Hoffman's buckwheat, Robust Hoffman's buckwheat, Golden carpet, and Watson's oxytheca. The Mojave ground squirrel is found along this segment.

Traffic Analysis Comments

The majority of accidents in this segment are due to hit object incidents. Specifically, single vehicle accidents due to collisions with animals.

Right of Way Comments

Right of Way is by prescriptive right for this segment.

Highway Operation Facts

Traffic Information/Forecasts		Design Hour Volumes		V/C Ratio		LOS
2001 AADT	285	2001 DHV	54	2001 V/C	0.03	A
2011 AADT	402	2011 DHV	76	2011 V/C	0.04	A
2021 AADT	515	2021 DHV	97	2021 V/C	0.05	A

Calculation Factors

Fatality + Injury Accident Rate	1.15	% Traffic Growth (0-10 yrs)	3.5%	Percent Trucks	0.5%
Fatality + Injury Statewide Avg Rate	1.08	% Traffic Growth (10-20 yrs)	2.5%	Percent RV's	7%
Total Accident Rate	2.08	Directional Split	60/40	Percent Buses	0.5%
Total Statewide Avg Rate	2.23	Terrain	Level		

SR 190 SEGMENT FACT SHEET

Length in km	29.22	**Length mi:**	18.15
KP Back	39.52	**Back PM**	24.55
KP Ahead	68.75	**Ahead PM**	42.70

Present Facility Two-Lane Conventional

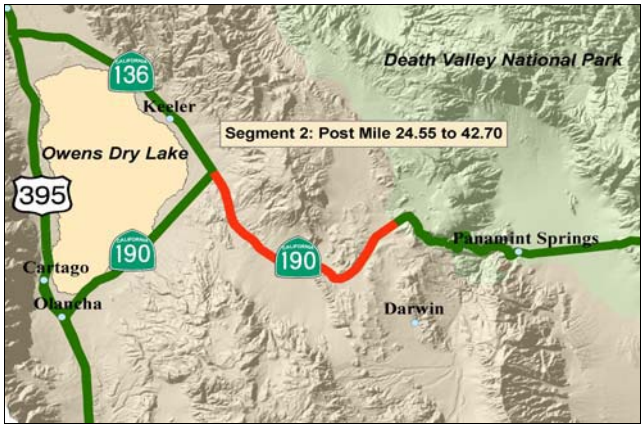
Present LOS A

Concept Facility Two-Lane Conventional

Concept LOS C

Ultimate Facility Two-Lane Conventional

Segment Location Junction of SR 190/136 to the West Boundary of Death Valley National Park



Segment Description

This segment is a two-lane conventional facility, with a posted speed limit of 65 mph (105 km/h). Elevations on this segment vary with a gradual gradient rising from 3,772 ft (1,150 m) at the junction of SR 190 and SR 136 to over 5,250 ft (1,600 m) at PM 38 (KP 61.18). The majority of the road is straight with some curves having a wide turn radius. Several dips for cross drainage are located within this segment. An area of particular concern is at Centennial Wash (PM 28.8 to 33.0, KP 46.47 to 53.13), where water and debris frequently flood the highway. Passing opportunities are restricted on over 41% of this segment due to limited sight distances.

Route Concept Improvement Recommendations

Install a box culvert at Centennial Wash Drainage area PM 28.8 to 33.0 (KP 46.47 to 53.13), install 8 ft (2.5 m) paved shoulders, evaluate and improve drainage network at various locations. Widen cut slope located between PM 27.77 (KP 44.71) to 27.94 (KP 45.00) to accommodate 5 ft (1.52 m) paved shoulders.

Programmed Projects

Inyo 190 SHOPP - Candidate PM 28.8 (KP 46.47) to PM 33.0 (KP 53.13) Centennial Wash - Drainage Improvement. Inyo 190 SHOPP - Minor PM 33.1 (KP 53.29) Reclamation of a Material Site.

Highway Network Affiliation

Functional Classification: Minor Arterial

National Hwy System	No	**Scenic Highway**	Eligible
California Freeway _ Expressway System	Yes	**National Truck Network**	Kingpin to Rear Axle < 30 ft in Length
STRAHNET	No	**Life Line**	No
Regionally Significant	Yes	**IRRS**	IRRS

Highway Information

	Units	Feet	Meters
Average Median Width		0	0
Average Shoulder Width		2	0.6
Average Lane Width		12	3.6

SR 190 SEGMENT FACT SHEET

RTPA/COG/MPO

Inyo County LTC
Drawer Q, Independence, CA 93526

Air Quality Comments

For State of California and National Ambient Air Quality Standards this area is out of conformity for PM 10 due to the Owens Dry Lake.

Transit Service/ Modal Options

Bicycle travel is allowed. Bus service is not available.

Land Use

Land Use for this segment includes open range land. Ownership is the Los Angeles Department of Water & Power, the United States Department of the Interior - Bureau of Land Management, and a few private parcels. The Timbisha Shoshone Tribe has recently acquired a parcel in trust to the south of SR 190 in the centennial flat area.

Environmental Concerns

Rare species of plants are found along the SR 190 corridor that include but are not limited to, Gilman's springparsley, winded catseye, Johnson barrel cactus, Mojave Fishook cactus, Death Valley sage, Red Grama, Reveal's buckwheat, Hoffman's buckwheat, Robust Hoffman's buckwheat, Golden carpet, and Watson's oxytheca. The Mojave ground squirrel is found along this segment.

Traffic Analysis Comments

Buses and motorhomes over 40 ft (12.20 m) are prohibited from the Junction of SR 190/136 PM 24.550 (KP 39.53) to the Panamint Valley Road turnoff (2.6 miles (4.2 km) east of Panamint Springs). Trucks over 30 ft (9.14 m) kingpin to the rear axle are not advised from the junction of SR 190/136 PM 24.550 (KP 39.526) to the Panamint Valley Road turnoff (2.6 miles (4.2 km) east of Panamint Springs).

Right of Way Comments

Right of Way is by a 400 ft (121.92 km) easement granted to the State of California by the United States Department of the Interior - Bureau of Land Management.

Highway Operation Facts

Traffic Information/Forecasts		Design Hour Volumes		V/C Ratio		LOS
2001 AADT	518	2001 DHV	90	2001 V/C	0.05	A
2011 AADT	731	2011 DHV	127	2011 V/C	0.08	B
2021 AADT	936	2021 DHV	163	2021 V/C	0.10	B

Calculation Factors

Fatality + Injury Accident Rate	0.26	% Traffic Growth (0-10 yrs)	3.5%	Percent Trucks	0.5%
Fatality + Injury Statewide Avg Rate	0.87	% Traffic Growth (10-20 yrs)	2.5%	Percent RV's	7%
Total Accident Rate	0.79	Directional Split	60/40	Percent Buses	0.5%
Total Statewide Avg Rate	1.74	Terrain	Rolling		

SR 190 SEGMENT FACT SHEET

Length in km	68.10	**Length mi:**	42.30
KP Back	68.75	**Back PM**	42.70
KP Ahead	136.85	**Ahead PM**	85.00

Present Facility Two-Lane Conventional

Present LOS B

Concept Facility Two-Lane Conventional

Concept LOS C

Ultimate Facility Two-Lane Conventional

Segment Location West Boundary Death Valley National Park to One Mile West of Stovepipe Wells

Segment Description

This segment is a two-lane conventional facility, with a posted speed limit of 55 mph (86 km/h). The segment begins at PM 42.7 (KP 68.7), which is the west boundary of Death Valley National Park. The highway has an average 5% vertical grade with horizontal curves and 10 (3.04 m) to 12 (3.6 m) foot variable lane widths. Father Crowley Point located at PM 47.42 (KP 75.7) is a popular stop for motorists, which provides vistas of the Panamint Valley. Services for motorists are available at Panamint Springs PM 55 (KP 88.55). After traversing the Panamint Valley heading east, the route ascends the western flank of the Panamint Mountains with an average slope of 6.5%. The route then descends into Death Valley at an average slope of 5%. Several dips for cross drainage are located from PM 72 (KP 115.9) to PM 80 (KP 128.8). PM 66.5 (KP 107.07) at Towne Pass contains a cut slope which contributes to numerous rock falls on the highway each year. The National Park Service is interested in installing an entrance fee station pullout at the western entrance to the park, which may utilize the Emigrant area.

Route Concept Improvement Recommendations

Improve and pave the scenic pullout at Father Crowley Point, PM 47.2 (KP 75.9). Widen cut slopes located between PM 52.42 (KP 84.40) and PM 52.49 (KP 84.51), PM 64.34 (KP 103.59) to PM 64.48 (KP 103.81), and PM 67.39 (KP 108.50) to PM 67.55 (KP 108.76). Install a box culvert to eliminate large dip in roadway at PM 55.49 (KP 89.34). Install guardrail from PM 64.00 (KP 103.04) to PM 64.32 (KP 103.56) and between PM 64.53 (KP 103.89) to PM 64.67 (KP 104.12). Realign the highway from PM 68.3 (KP 109.9) to PM 75 (KP 120.8). Install rock slope protection from PM 66.02 (KP 106.29) to PM 67.83 (KP 109.21). Install paved shoulders where terrain permits, and provide scenic pullouts/turnouts at PM 45.98 (KP 74.03), PM 49.99 (KP 88.48), and PM 64.90 (KP 104.49). Consult with NPS to consider a SR 190 bypass for Emigrant based on cooperative planning between NPS and Caltrans for the this area.

Programmed Projects

Inyo 190 Candidate PM 65.9 (KP 106.1) to PM 75 (KP 120.7), Towne Pass Realignment. Inyo 190 SHOPP - Candidate PM 47.2 (KP 75.9) Father Crowley Point Scenic Pullout.

Highway Network Affiliation

Functional Classification: Minor Arterial

National Hwy System	No	**Scenic Highway**	Begins @ PM 42.7
California Freeway _ Expressway System	Yes	**National Truck Network**	Kingpin to Rear Axle < 30 ft in Length
STRAHNET	No	**Life Line**	No
Regionally Significant	Yes	**IRRS**	IRRS

Highway Information

	Units	Feet	Meters
Average Median Width		0	0
Average Shoulder Width		1	0.3
Average Lane Width		12	3.6

SR 190 SEGMENT FACT SHEET

RTPA/COG/MPO

Inyo County LTC
Drawer Q, Independence, CA 93526

Air Quality Comments

Generated O3 measurements from 1995-2000 state that all ozone emissions are within EPA requirements, and along with Particulate Matter 10 and Particulate Matter 2.5 there are no concerns. O3 is believed to come from Interstates 15 and 40 that traverse through San Bernardino County; highest readings are recorded during the summer months.

Transit Service/ Modal Options

Bicycle travel is allowed. Bus service is not available.

Land Use

Ownership is the United States Department of Interior, National Park Service. Land use is Death Valley National Park which focuses on Preservation, Conservation, Education, and Recreation. Also a small private inholding is located in Panamint Springs along SR 190, which includes a restaurant, gas station, and campground.

Environmental Concerns

Rare species of plants are found along the SR 190 corridor that include but are not limited to, Gilman's springparsley, winded catseye, Johnson barrel cactus, Mojave Fishook cactus, Death Valley sage, Red Grama, Reveal's buckwheat, Hoffman's buckwheat, Robust Hoffman's buckwheat, Golden carpet, and Watson's oxytheca. The Mojave ground squirrel is found along this segment. Other environmental concerns for this segment include preserving the viewshed, open spaces, and wilderness character.

Traffic Analysis Comments

Buses and motorhomes over 40 ft (12.2 m) are prohibited from the Junction of SR 190/136 PM 24.550 to the Panamint Valley Road turnoff (2.6 miles (4.2 km) east of Panamint Springs). Trucks over 30 ft (9.14 m) Kingpin to the rear axle are not advised from the junction of SR 190/136 PM 24.550 (KP 39.52) to the Panamint Valley Road turnoff (2.6 miles (4.2 km) east of Panamint Springs).

Right of Way Comments

Right of Way from PM 42.70 (KP 68.75) to PM 63.88 (KP 102.85) is by a 400 ft (121.92 km) easement granted to the State of California by the United States Department of the Interior - National Park Service. From PM 63.88 (KP 102.85) to PM 68.93 (KP 110.98) the NPS easement varies from 200 ft (60.96 m) to 400 ft (121.92 km). PM 68.93 (KP 110.98) to PM 85 (KP 136.85) is a RS 2477 grant easement.

Highway Operation Facts

Traffic Information/Forecasts		Design Hour Volumes		V/C Ratio		LOS
2001 AADT	828	2001 DHV	118	2001 V/C	0.09	C
2011 AADT	1168	2011 DHV	166	2011 V/C	0.13	C
2021 AADT	1495	2021 DHV	212	2021 V/C	0.17	C

Calculation Factors

Fatality + Injury Accident Rate	0.26	% Traffic Growth (0-10 yrs)	3.5%	Percent Trucks	0.5%
Fatality + Injury Statewide Avg Rate	0.87	% Traffic Growth (10-20 yrs)	2.5%	Percent RV's	7
Total Accident Rate	0.79	Directional Split	60/40	Percent Buses	0.5%
Total Statewide Avg Rate	1.74	Terrain	Mountainous		

SR 190 SEGMENT FACT SHEET

Length in km	3.22	**Length mi:**	2.00
KP Back	136.85	**Back PM**	85.00
KP Ahead	140.07	**Ahead PM**	87.00

Present Facility Two-Lane Conventional

Present LOS C

Concept Facility Two-Lane Conventional

Concept LOS C

Ultimate Facility Two-Lane Conventional

Segment Location Stovepipe Wells

Segment Description

This segment is a two-lane conventional highway that passes through the resort area of Stovepipe Wells. The posted speed limit is 35 mph (56 km/h). Services at Stovepipe Wells include a gas station, restaurant, RV park, general store, and Ranger Station. Numerous internal circulation trips occur each day, and volumes are especially high during peak periods, which have resulted in Annual Average Daily Traffic Volumes of up to 1,350 vehicles. The highway bisects the services at Stovepipe Wells and at peak times during the year, a high volume of pedestrian traffic crossing the highway may occur.

Route Concept Improvement Recommendations

District Staff should consult with the NPS regarding shoulder widths that achieve adequate support of the structural section, reduced erosion at the pavement edge, width for narrow rumble strips to warn vehicles that are drifting out of the travel lanes, and a sufficient paved shoulder for bicycles and pedestrians to travel safely and conveniently clear of the travel way.

Programmed Projects

No capacity or operational improvements are programmed for this segment.

Highway Network Affiliation

Functional Classification:	Minor Arterial		
National Hwy System	No	**Scenic Highway**	Officially Designated
California Freeway _ Expressway System	Yes	**National Truck Network**	Kingpin to Rear Axle < 40 ft in Length
STRAHNET	No	**Life Line**	No
Regionally Significant	Yes	**IRRS**	IRRS

Highway Information

	Units	Feet	Meters
Average Median Width		0	0
Average Shoulder Width		1	0.3
Average Lane Width		12	3.6

SR 190 SEGMENT FACT SHEET

RTPA/COG/MPO

Inyo County LTC
Drawer Q, Independence, CA 93526

Air Quality Comments

Generated O3 measurements from 1995-2000 state that all ozone emissions are within EPA requirements, and along with Particulate Matter 10 and Particulate Matter 2.5 there are no concerns. O3 is believed to come from Interstates 15 and 40 that traverse through San Bernardino County; highest readings are recorded during the summer months.

Transit Service/ Modal Options

Bicycle travel is allowed. Bus service is not available. An airport open to the public for small private aircraft is located at Stovepipe Wells. The runway length is 3,260 ft (994 m) with an asphalt surface in fair condition. Aircraft operations are estimated at an average of 83 per month.

Land Use

Ownership is the United States Department of Interior, National Park Service. Land use is Death Valley National Park which focuses on Preservation, Conservation, Education, and Recreation.

Environmental Concerns

Rare species of plants are found along the SR 190 corridor that include but are not limited to, Gilman's springparsley, winded catseye, Johnson barrel cactus, Mojave Fishook cactus, Death Valley sage, Red Grama, Reveal's buckwheat, Hoffman's buckwheat, Robust Hoffman's buckwheat, Golden carpet, and Watson's oxytheca. Other environmental concerns for this segment include preserving the viewshed, open spaces, and wilderness character.

Traffic Analysis Comments

Monitor and evaluate pedestrian crossings, especially at Stovepipe Wells and the Sand Dunes.

Right of Way Comments

Right of Way for this segment is a RS 2477 grant easement.

Highway Operation Facts

Traffic Information/Forecasts		Design Hour Volumes		V/C Ratio		LOS
2001 AADT	1100	2001 DHV	222	2001 V/C	0.11	C
2011 AADT	1551	2011 DHV	313	2011 V/C	0.15	C
2021 AADT	1985	2021 DHV	401	2021 V/C	0.20	C

Calculation Factors

Fatality + Injury Accident Rate	0	% Traffic Growth (0-10 yrs)	3.5%	Percent Trucks	0.5%
Fatality + Injury Statewide Avg Rate	0.87	% Traffic Growth (10-20 yrs)	2.5%	Percent RV's	7%
Total Accident Rate	0.38	Directional Split	60/40	Percent Buses	0.5%
Total Statewide Avg Rate	1.77	Terrain	Variable		

SR 190 SEGMENT FACT SHEET

Length in km	32.20	**Length mi:**	20.00
KP Back	140.07	**Back PM**	87.00
KP Ahead	172.27	**Ahead PM**	107.00

Present Facility Two-Lane Conventional

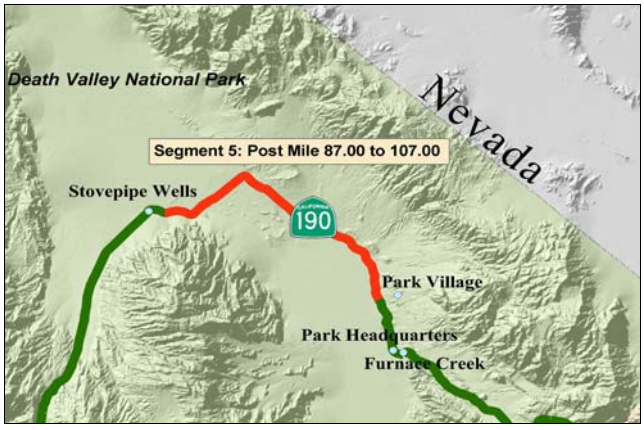
Present LOS B

Concept Facility Two-Lane Conventional

Concept LOS C

Ultimate Facility Two-Lane Conventional

Segment Location Death Valley National Park



Segment Description

This segment is a two-lane conventional highway that passes through the heart of Death Valley, with a posted speed limit of 60 mph (97 km/h). Elevations range from 158 ft (48.16 m) to 245 ft (74.6 m) below sea level. The terrain is level, and no steep grades are present. Passing is restricted due to sight distance on approximately 28% of this segment. 8 ft to 10 ft (2.44 m to 3.05 m) unpaved graded shoulders are present on most of this segment. Numerous scenic attractions are located along the route, including Sand Dunes, the Devils Cornfield, and the Salt Creek interpretive trail. Due to the spectacular scenery along the route, motorists often stop in the travel way, which creates a hazard for other motorists. Also included in this segment is the intersection to the popular tourist destination of Scotty's Castle as well as the intersection to Beatty, Nevada.

Route Concept Improvement Recommendations

District Staff should consult with the NPS regarding shoulder widths that achieve adequate support of the structural section, reduced erosion at the pavement edge, width for narrow rumble strips to warn vehicles that are drifting out of the travel lanes, and a sufficient paved shoulder for bicycles and pedestrians to travel safely and conveniently clear of the travel way. Install scenic pullouts at PM 88.0 (KP 141.68) 'Sand Dunes', install permanent traffic count stations at PM 94 (KP 151.3) Scotty's Castle Road Turnoff), and PM 100 (KP 161) Beatty Road Turnoff. Install Left and Right Turn Pockets at PM 94 (KP 141.68) Scotty's Castle Road, and PM 100 (KP 161) the Beatty Road Turnoff.

Programmed Projects

Inyo 190 SHOPP - Candidate PM 88.0 (KP 141.68) install Scenic Pullouts - Sand Dunes.

Highway Network Affiliation

Functional Classification: Minor Arterial

National Hwy System	No	**Scenic Highway**	Officially Designated
California Freeway _ Expressway System	Yes	**National Truck Network**	Kingpin to Rear Axle < 40 ft in Length
STRAHNET	No	**Life Line**	No
Regionally Significant	Yes	**IRRS**	IRRS

Highway Information

	Units	Feet	Meters
Average Median Width		0	0
Average Shoulder Width		1	0.3
Average Lane Width		12	3.6

SR 190 SEGMENT FACT SHEET

RTPA/COG/MPO

Inyo County LTC
Drawer Q, Independence, CA 93526

Air Quality Comments

Generated O3 measurements from 1995-2000 state that all ozone emissions are within EPA requirements, and along with Particulate Matter 10 and Particulate Matter 2.5 there are no concerns. O3 is believed to come from Interstates 15 and 40 that traverse through San Bernardino County; highest readings are recorded during the summer months.

Transit Service/ Modal Options

Bicycle travel is allowed. Bus service is not available.

Land Use

Ownership is the United States Department of Interior, National Park Service. Land use is Death Valley National Park, which focuses on Preservation, Conservation, Education, and Recreation.

Environmental Concerns

Rare species of plants are found along the SR 190 corridor that include but are not limited to, Gilman's springparsley, winded catseye, Johnson barrel cactus, Mojave Fishook cactus, Death Valley sage, Red Grama, Reveal's buckwheat, Hoffman's buckwheat, Robust Hoffman's buckwheat, Golden carpet, and Watson's oxytheca. Other environmental concerns for this segment include preserving the viewshed, open spaces, and wilderness character.

Traffic Analysis Comments

The installation of scenic pullouts at the Sand Dunes location PM 88.0 (KP 141.68) should alleviate pedestrians from crossing the highway in this area.

Right of Way Comments

Right of Way for this segment is a RS 2477 grant easement.

Highway Operation Facts

Traffic Information/Forecasts		Design Hour Volumes		V/C Ratio		LOS
2001 AADT	1284	2001 DHV	188	2001 V/C	0.11	B
2011 AADT	1644	2011 DHV	241	2011 V/C	0.15	B
2021 AADT	2004	2021 DHV	294	2021 V/C	0.18	B

Calculation Factors

Fatality + Injury Accident Rate	0.20	% Traffic Growth (0-10 yrs)	2.5%	Percent Trucks	0.5%
Fatality + Injury Statewide Avg Rate	0.77	% Traffic Growth (10-20 yrs)	2.0%	Percent RV's	7%
Total Accident Rate	0.36	Directional Split	60/40	Percent Buses	0.5%
Total Statewide Avg Rate	1.59	Terrain	Variable		

SR 190 SEGMENT FACT SHEET

Length in km	8.05	**Length mi:**	5.00
KP Back	172.27	**Back PM**	107.00
KP Ahead	180.32	**Ahead PM**	112.00

Present Facility Two-Lane Conventional

Present LOS C

Concept Facility Two-Lane Conventional

Concept LOS C

Ultimate Facility Two-Lane Conventional

Segment Location Park Village and Furnace Creek Ranch (Park Headquarters)

Segment Description

This segment is a two-lane conventional highway that passes through the Park Headquarters at Furnace Creek. The terrain is level, and no steep grades are present. 8 ft to 10 ft (2.44 m to 3.05 m) unpaved graded shoulders are present on most of this segment. The posted speed limit in this segment varies from 60 mph (96.5 km/h) to 35 mph (56 km/h). The turnoff to Cow Creek is located at PM 107 (KP 172.27), which is an access road for National Park Service resource management facilities, Caltrans maintenance station, school, and housing for both of these organizations. Furnace Creek is located at PM 110 (KP 177), which includes a gas station, restaurants, RV park, general store, lodging, employee housing, public campgrounds, visitor center, and Death Valley National Park Headquarters. Numerous internal circulation trips occur each day in the Furnace Creek area, and volumes are especially high during peak periods. The turnoff to the Badwater Road, which takes visitors to the lowest point in the Continental United States is located at PM 111.73 (KP 179.8).

Route Concept Improvement Recommendations

Evaluate and maintain surface runoff at the Cow Creek turnoff PM 107 (KP 172.27) location. If safety issues arise, right and left turn pockets at PM 110.440 (KP 177.81) Death Valley National Park Headquarters, and at PM 110.720 (KP 178.26) Furnace Creek Ranch should be considered. Install a permanent traffic count station at Furnace Creek. District Staff should consult with the NPS regarding shoulder widths that achieve adequate support of the structural section, reduced erosion at the pavement edge, width for narrow rumble strips to warn vehicles that are drifting out of the travel lanes, and a sufficient paved shoulder for bicycles and pedestrians to travel safely and conveniently clear of the travel way.

Programmed Projects

No capacity or operational improvements are programmed for this segment.

Highway Network Affiliation

Functional Classification: Minor Arterial

National Hwy System	No	**Scenic Highway**	Officially Designated
California Freeway _ Expressway System	Yes	**National Truck Network**	Kingpin to Rear Axle < 40 ft in Length
STRAHNET	No	**Life Line**	No
Regionally Significant	Yes	**IRRS**	IRRS

Highway Information

	Units	Feet	Meters
Average Median Width		0	0
Average Shoulder Width		1	0.6
Average Lane Width		12	3.6

SR 190 SEGMENT FACT SHEET

RTPA/COG/MPO

Inyo County LTC
Drawer Q, Independence, CA 93526

Air Quality Comments

Generated O3 measurements from 1995-2000 state that all ozone emissions are within EPA requirements, and along with Particulate Matter 10 and Particulate Matter 2.5 there are no concerns. O3 is believed to come from Interstates 15 and 40 that traverse through San Bernardino County; highest readings are recorded during the summer months.

Transit Service/ Modal Options

Bicycle travel is allowed. Bus service is not available. An airport open to the public for small private aircraft is located at Furnace Creek. The runway length is 3,065 ft (934 m) with an asphalt surface in fair condition. Aircraft operations are estimated at an average of 28 per day.

Land Use

Ownership is the United States Department of Interior, National Park Service. Land use is Death Valley National Park, which focuses on Preservation, Conservation, Education, and Recreation. Other land uses in the area include resort activities such as, a residential area, camping, swimming, golf, interpretive trails, etc. The Timbisha Shoshone Tribe holds in trust approximately 314 acres in the Furnace Creek area around PM 111 (including a portion of SR 190) with plans to develop a hotel, community development, residential use, historic restoration, and visitor related activites.

Environmental Concerns

Rare species of plants are found along the SR 190 Corridor that include but are not limited to, Gilman's springparsley, winded catseye, Johnson barrel cactus, Mojave Fishook cactus, Death Valley sage, Red Grama, Reveal's buckwheat, Hoffman's buckwheat, Robust Hoffman's buckwheat, Golden carpet, and Watson's oxytheca. Other environmental concerns for this segment include preserving the viewshed, open spaces, and wilderness character.

Traffic Analysis Comments

Numerous pedestrian crossings and vehicular turn movements occur within this segment due to the land uses within the area.

Right of Way Comments

Right of Way for this segment includes an RS 2477 grant easement, The Timbisha Shoshone Tribe holds in trust a portion of SR 190 R/W near PM 111, and Caltrans has a fee conveyed alignment in the vicinity of PM 111.7.

Highway Operation Facts

Traffic Information/Forecasts		Design Hour Volumes		V/C Ratio		LOS
2001 AADT	1600	2001 DHV	264	2001 V/C	0.14	C
2011 AADT	2048	2011 DHV	338	2011 V/C	0.18	C
2021 AADT	2497	2021 DHV	412	2021 V/C	0.21	C

Calculation Factors

Fatality + Injury Accident Rate	0.25	% Traffic Growth (0-10 yrs)	2.5%	Percent Trucks	3.5%
Fatality + Injury Statewide Avg Rate	0.74	% Traffic Growth (10-20 yrs)	2.0%	Percent RV's	7%
Total Accident Rate	0.61	Directional Split	60/40	Percent Buses	0.5%
Total Statewide Avg Rate	1.54	Terrain	Variable		

SR 190 SEGMENT FACT SHEET

Length in km	25.76	**Length mi:**	16.33
KP Back	180.32	**Back PM**	112.00
KP Ahead	206.08	**Ahead PM**	128.33

Present Facility Two-Lane Conventional

Present LOS B

Concept Facility Two-Lane Conventional

Concept LOS C

Ultimate Facility Two-Lane Conventional

Segment Location Furnace Creek to Death Valley National Park East Boundary

Segment Description

This segment is a two-lane conventional highway. The roadway traverses the Furnace Creek Wash for approximately 11 miles (17.71 km). Due to the alignment of the route in a major drainage basin, the highway is subject to extensive damage from flash floods. As a result, this segment is closed on average at least one day each year due to storm damage. A drainage diversion was created in 1947 above Zabriskie point (PM 115.3, KP 185.63) ,which directs runoff away from the Furnace Creek Wash to the west through Gower Gulch. This diverted runoff has substantially impacted the Badwater road. Popular tourist attractions along this segment include Zabriskie Point, Twenty-Mule Team Canyon, and Dante's View road. The Dante's View Road is located at PM 122.12 (KP 196.62), which is the access route for trucks hauling ore from the Billie Mine area. Due to the spectacular scenery along the route, motorists often stop in the travel way, which creates a hazard for other motorists. The National Park Service is interested in installing an entrance fee station pullout at the eastern entrance to the park around the Dante's View road intersection.

Route Concept Improvement Recommendations

Improve drainage protection for the highway in the Furnace Creek Wash, work cooperatively with the National Park Service to improve the Zabriskie Point Drainage Diversion at PM 115.3 (KP 185.63), enhance the scenic pullout at Zabriskie point, install left and right turn pockets from SR 190 into the Zabriskie Point parking lot. Install a permanent count station at PM 113.5 (KP 182.74). District Staff should consult with the NPS regarding shoulder widths that achieve adequate support of the structural section, reduced erosion at the pavement edge, width for narrow rumble strips to warn vehicles that are drifting out of the travel lanes, and a sufficient paved shoulder for bicycles and pedestrians to travel safely and conveniently clear of the travel way.

Programmed Projects

Inyo 190 SHOPP - Candidate PM 115.3 (KP 185.5) Zabriskie Point Scenic Pullout. Inyo 190 SHOPP - Minor PM 115.2 (KP 185.4) Zabriskie Point Drainage Improvement.

Highway Network Affiliation

Functional Classification: Minor Arterial

National Hwy System	No	**Scenic Highway**	Officially Designated
California Freeway _ Expressway System	Yes	**National Truck Network**	Kingpin to Rear Axle < 40 ft in Length
STRAHNET	No	**Life Line**	No
Regionally Significant	Yes	**IRRS**	IRRS

Highway Information

	Units	Feet	Meters
Average Median Width		0	0
Average Shoulder Width		2	0.6
Average Lane Width		12	3.6

SR 190 SEGMENT FACT SHEET

RTPA/COG/MPO

Inyo County LTC
Drawer Q, Independence, CA 93526

Air Quality Comments

Generated O3 measurements from 1995-2000 state that all ozone emissions are within EPA requirements, and along with Particulate Matter 10 and Particulate Matter 2.5 there are no concerns. O3 is believed to come from Interstates 15 and 40 that traverse through San Bernardino County; highest readings are recorded during the summer months.

Transit Service/ Modal Options

Bicycle travel is allowed. Bus service is not available.

Land Use

Ownership is the United States Department of Interior, National Park Service. Land use is Death Valley National Park, which focuses on Preservation, Conservation, Education, and Recreation.

Environmental Concerns

Rare species of plants are found along the SR 190 Corridor that include but are not limited to, Gilman's springparsley, winded catseye, Johnson barrel cactus, Mojave Fishook cactus, Death Valley sage, Red Grama, Reveal's buckwheat, Hoffman's buckwheat, Robust Hoffman's buckwheat, Golden carpet, and Watson's oxytheca. Other environmental concerns for this segment include preserving the viewshed, open spaces, and wilderness character.

Traffic Analysis Comments

Accident's should be closely monitored at PM 122.12 (KP 196.61) through PM 122.56 (KP 197.32), the Dante's View Road turnoff, and at PM 117.76 (189.59) through PM 118.23 (KP 190.35), the one-way entry road onto SR 190 from the Twenty-Mule Team Canyon Road.

Right of Way Comments

Right of Way for this segment includes an RS 2477 grant easement, a drainage agreement with the National Park Service at PM 115.4, and a 400 ft (121.92 m) easement granted by the National Park Service.

Highway Operation Facts

Traffic Information/Forecasts		Design Hour Volumes		V/C Ratio		LOS
2001 AADT	1204	2001 DHV	127	2001 V/C	0.13	B
2011 AADT	1542	2011 DHV	163	2011 V/C	0.16	B
2021 AADT	1880	2021 DHV	199	2021 V/C	0.20	C

Calculation Factors

Fatality + Injury Accident Rate	0.20	% Traffic Growth (0-10 yrs)	2.5%	Percent Trucks	4%
Fatality + Injury Statewide Avg Rate	0.74	% Traffic Growth (10-20 yrs)	2.0%	Percent RV's	7%
Total Accident Rate	0.40	Directional Split	60/40	Percent Buses	1%
Total Statewide Avg Rate	1.53	Terrain	Mountainous		

SR 190 SEGMENT FACT SHEET

Length in km	19.90	**Length mi:**	12.36
KP Back	206.08	**Back PM**	128.33
KP Ahead	226.51	**Ahead PM**	140.69

Present Facility Two-Lane Conventional

Present LOS B

Concept Facility Two-Lane Conventional

Concept LOS C

Ultimate Facility Two-Lane Conventional

Segment Location East Boundary Death Valley National Park to Junction SR 190/SR 127

Segment Description

This segment is a two-lane conventional highway, with a posted speed limit of 65 mph (105 km/h). The route passes through rolling hills with several major dips for cross drainage. The road is mostly straight with ample sight distance for passing opportunities, however the major dips make some locations difficult for passing sight distance. Signs warn motorists of a major wild horse crossing in the vicinity of PM 138 (222.18). The junction of SR 190 and SR 127 includes a 1,000 acre parcel of Timbisha Shoshone Tribal Land that may be developed.

Route Concept Improvement Recommendations

Install box culverts at PM 134.44 (KP 216.45) to eliminate the major dips for cross drainage. Install deceleration/acceleration lanes for the approaches to SR 190 on SR 127. Install 5 ft (1.5 m) paved shoulders. Evaluate and maintain the existing drainage network.

Programmed Projects

No capacity or operational improvements are programmed for this segment.

Highway Network Affiliation

Functional Classification: Minor Arterial

National Hwy System	No	**Scenic Highway**	Eligible
California Freeway _ Expressway System	Yes	**National Truck Network**	Kingpin to Rear Axle < 40 ft in Length
STRAHNET	No	**Life Line**	No
Regionally Significant	Yes	**IRRS**	IRRS

Highway Information

	Units	Feet	Meters
Average Median Width		0	0
Average Shoulder Width		1	0.3
Average Lane Width		12	3.6

SR 190 SEGMENT FACT SHEET

RTPA/COG/MPO

Inyo County LTC
Drawer Q, Independence, CA 93526

Air Quality Comments

Generated O3 measurements from 1995-2000 state that all ozone emissions are within EPA requirements, and along with Particulate Matter 10 and Particulate Matter 2.5 there are no concerns. O3 is believed to come from Interstates 15 and 40 that traverse through San Bernardino County; highest readings are recorded during the summer months.

Transit Service/ Modal Options

Bicycle travel is allowed. Bus service is not available.

Land Use

Open Range Land

Environmental Concerns

Rare species of plants are found along the SR 190 Corridor that include but are not limited to, Gilman's springparsley, winded catseye, Johnson barrel cactus, Mojave Fishook cactus, Death Valley sage, Red Grama, Reveal's buckwheat, Hoffman's buckwheat, Robust Hoffman's buckwheat, Golden carpet, and Watson's oxytheca.

Traffic Analysis Comments

Several dips for cross drainage in the travelway are located along this segment that may impede sight distance.

Right of Way Comments

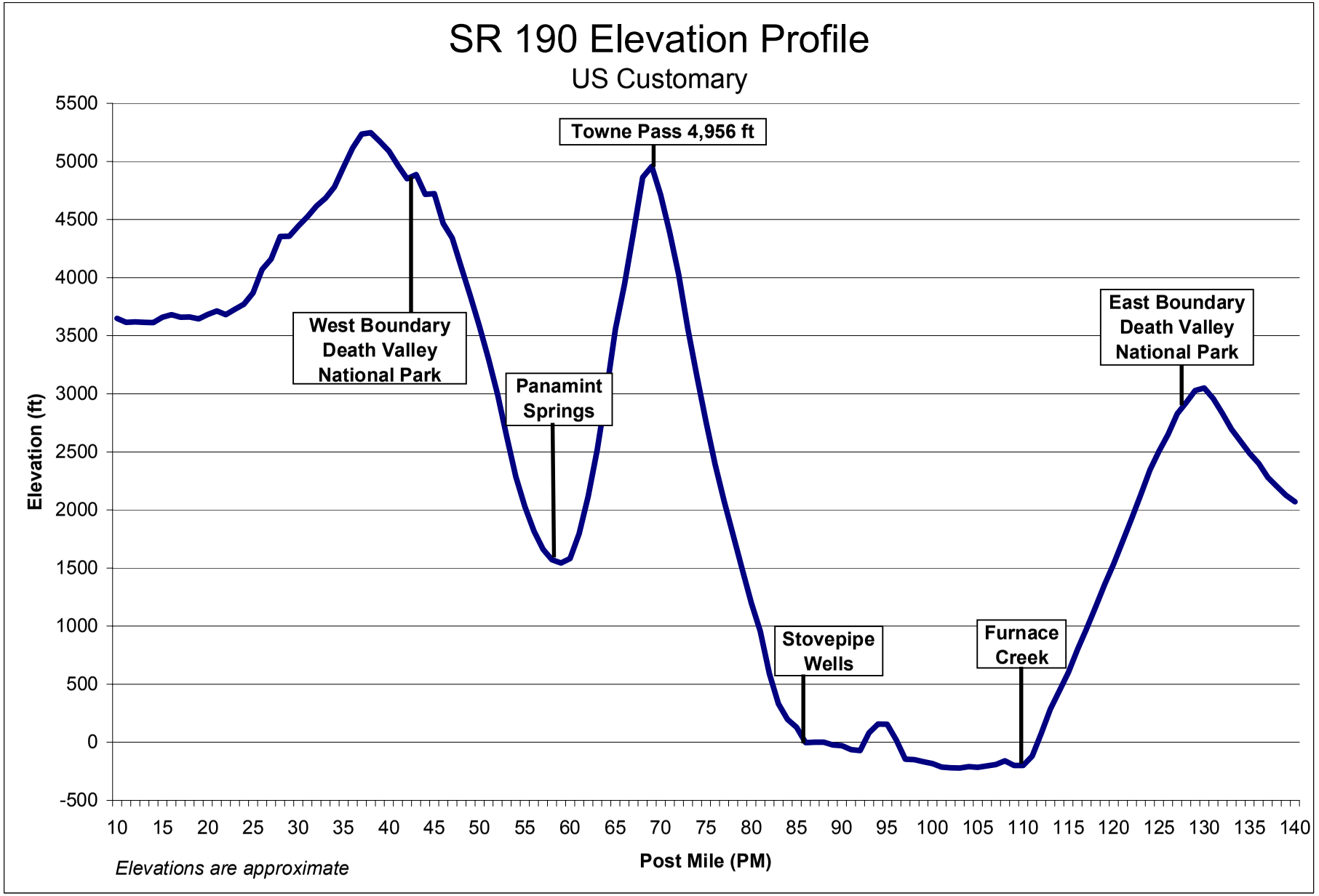
Right of Way for this segment includes a 400 ft (121.92 m) easement granted by the Bureau of Land Management, a portion of SR 190 at the intersection of SR 190 and SR 127 (Death Valley Junction) is located on Timbisha Shoshone Tribe Trust Lands.

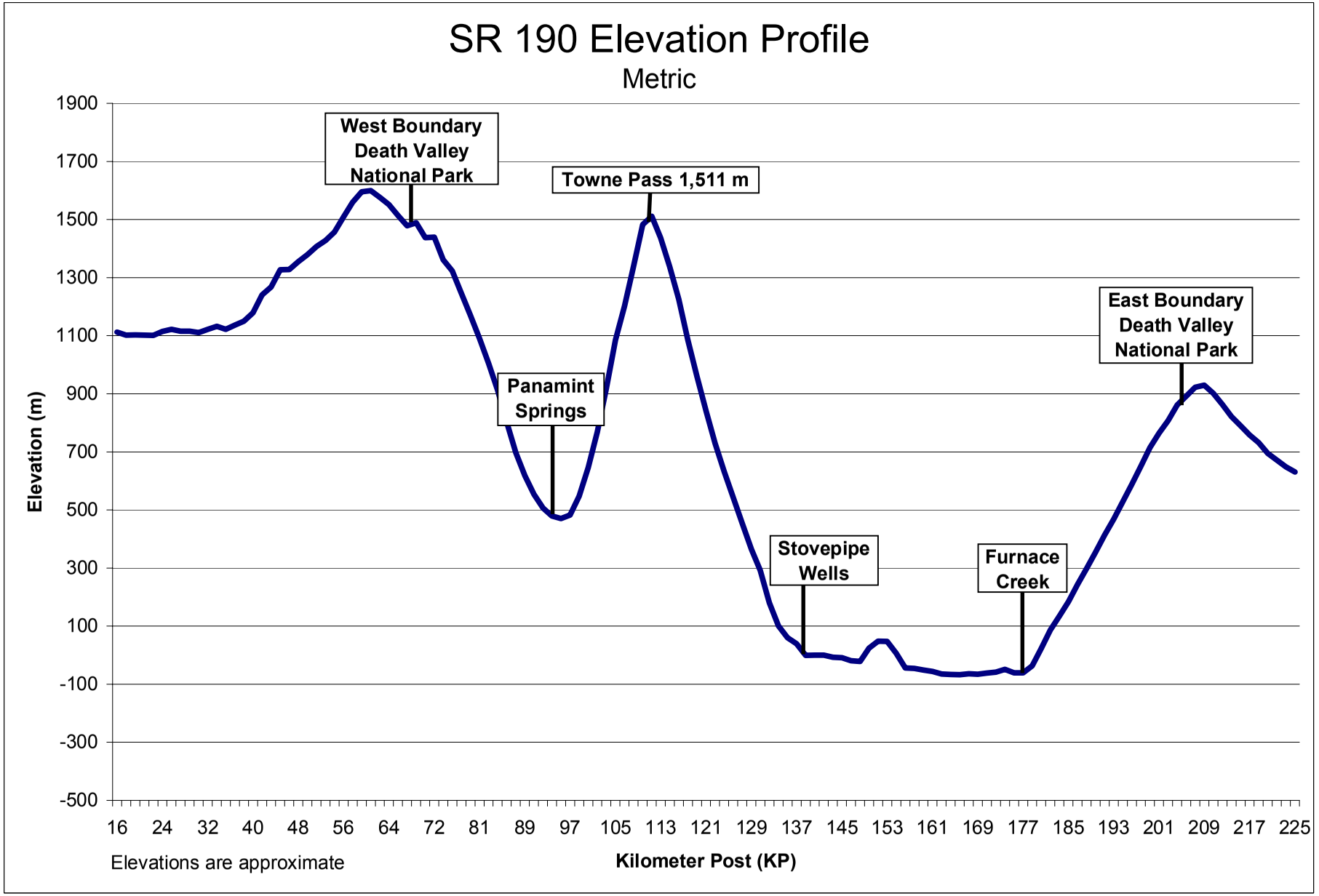
Highway Operation Facts

Traffic Information/Forecasts		Design Hour Volumes		V/C Ratio		LOS
2001 AADT	861	2001 DHV	97	2001 V/C	0.07	B
2011 AADT	1102	2011 DHV	124	2011 V/C	0.09	B
2021 AADT	1343	2021 DHV	151	2021 V/C	0.11	B

Calculation Factors

Fatality + Injury Accident Rate	0.50	% Traffic Growth (0-10 yrs)	2.5%	Percent Trucks	4.0%
Fatality + Injury Statewide Avg Rate	0.60	% Traffic Growth (10-20 yrs)	2.0%	Percent RV's	7.0%
Total Accident Rate	0.67	Directional Split	60/40	Percent Buses	1%
Total Statewide Avg Rate	1.20	Terrain	Rolling		


SR 190 Elevation Profile
US Customary
Towne Pass 4,956 ft
West Boundary Death Valley National Park
Panamint Springs
East Boundary Death Valley National Park
Stovepipe Wells
Furnace Creek
Elevation (ft)
5500
5000
4500
4000
3500
3000
2500
2000
1500
1000
500
0
-500
10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120 125 130 135 140
Post Mile (PM)
Elevations are approximate


SR 190 Elevation Profile
Metric
West Boundary Death Valley National Park
Towne Pass 1,511 m
Panamint Springs
Stovepipe Wells
Furnace Creek
East Boundary Death Valley National Park
Elevation (m)
1900
1700
1500
1300
1100
900
700
500
300
100
-100
-300
-500
16 24 32 40 48 56 64 72 81 89 97 105 113 121 129 137 145 153 161 169 177 185 193 201 209 217 225
Elevations are approximate
Kilometer Post (KP)

GLOSSARY

Concept Facility	Highway facility type and characteristics considered viable with or without improvement within the 20-year planning period given financial, environmental, planning and engineering factors.
Concept LOS	Highest and best Level of Service that can be achieved in the 20-year planning period based on the concept facility.
Design Hour Volume	30th Highest Hour Traffic Volume in a selected year for a given segment.
Directional split	The percentage of traffic in the peak direction during the peak hour.
Functional Classification	Guided by Federal legislation, refers to a process by which streets and highways are grouped into classes or systems according to the character of the service that is provided (i.e. Principal Arterial, Minor Arterial Roads, Collector Roads and Local Roads).
Interregional Road System	Statewide network of legislatively identified interregional routes, outside urbanized areas, that provides access to, and links between, the state's economic centers, major recreational areas, urban and rural regions.
Level of Service (LOS)	A qualitative rating of the effectiveness of a transportation system in serving travel. Letters A (best) through F (worst).
National Highway System	Federal-designated system of major highways in each state, including all numbered interstate highways.
Present Facility	Highway type and general characteristics at the time of this study.
Present LOS	Existing Level of Service.
Programmed Projects	Capacity-enhancing, safety and/or operational improvement projects programmed through STIP or SHOPP.
Route Designations	Identifies whether or not the subject segment of a route is designated as being part of the National Highway System (NHS); Interregional Highway System (IRRS); California Freeway/Expressway (F & E), Scenic Highway; National Truck Network (NTN); Strategic Highway Network (STRAHNET); and, Highways of Regional Significance.

ACRONYMS

AADT	Average Annual Daily Traffic
ADT	Average Daily Traffic
BLM	Bureau of Land Management
Caltrans	California Department of Transportation
IRRS	Interregional Road System
KM	Kilometer
LOS	Level of Service
MNO	Mono
NHS	National Highway System
NTN	National Truck Network
PKM	Post Kilometer
PM	Post Mile
RV	Recreational Vehicle
SHOPP	State Highway Operation and Protection Program
STAA	Surface Transportation Assistance Act
STIP	State Transportation Improvement Program
STRAHNET	Strategic Highway Network
TCR	Transportation Concept Report
USFS	US Forest Service
V/C	Volume to Capacity

REFERENCES

2001 Inyo County Regional Transportation Plan
1985 Caltrans Route Segment Report
1994 Caltrans Highway Capacity Manual/Highway Capacity Software
District 9 Post Mile Log
TASAS Table B Accident Data (07/01/98) – (06/30/01)